

July 31, 1962

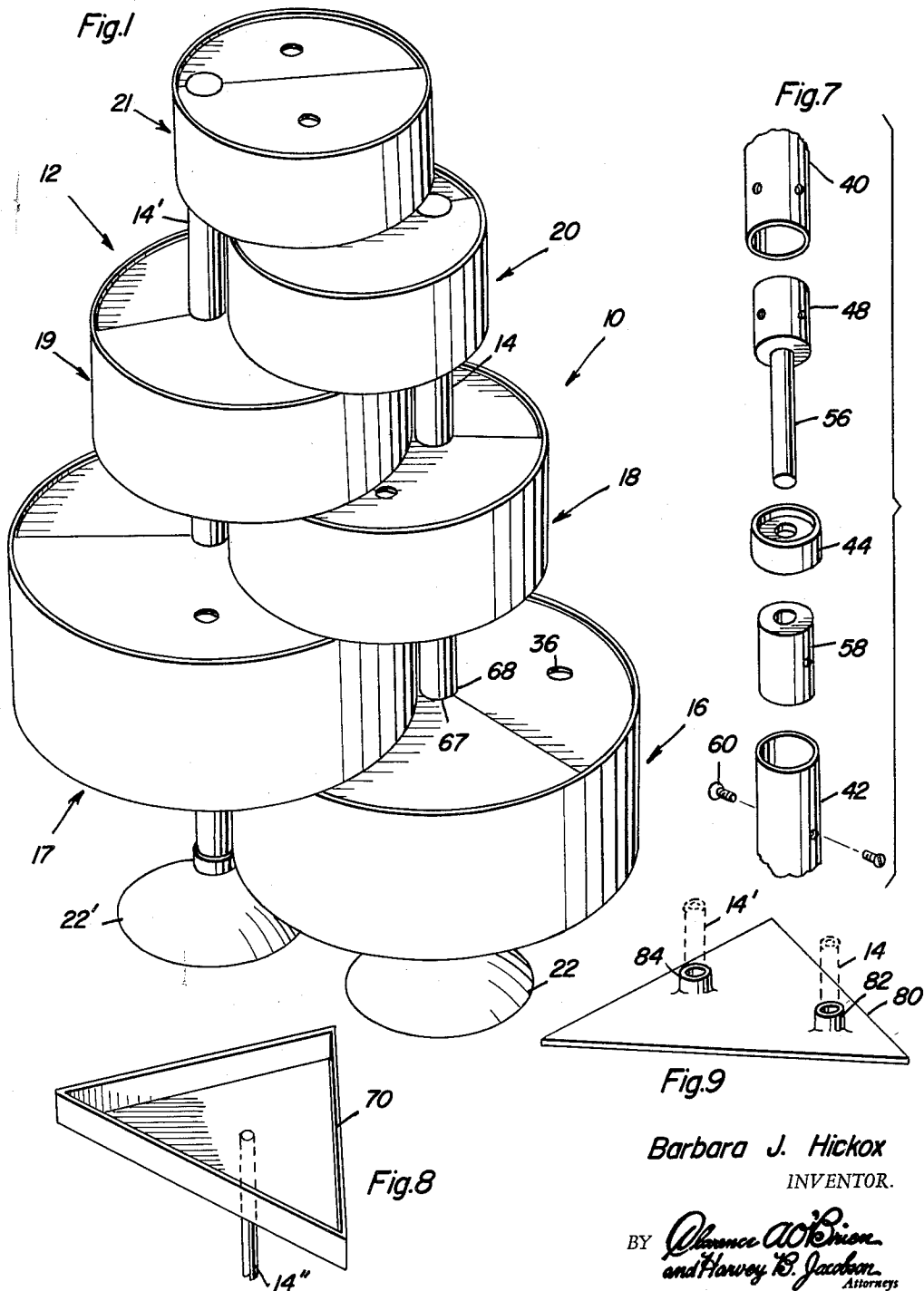
B. J. HICKOX

3,047,348

POLE-MOUNTED SUPERPOSED COMPARTMENTS

Filed Dec. 21, 1960

2 Sheets-Sheet 1



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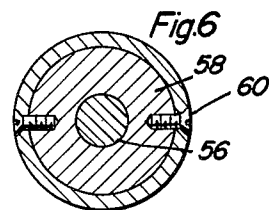
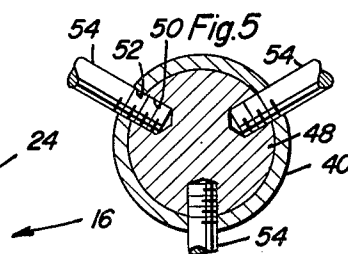
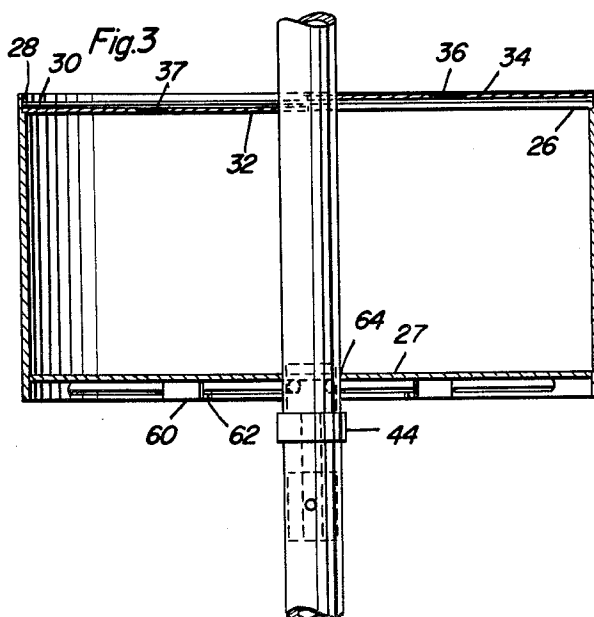
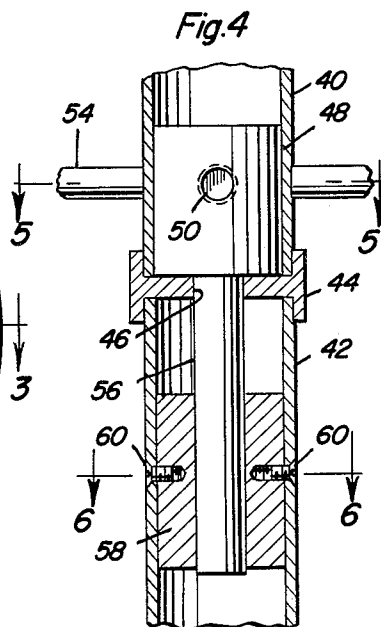
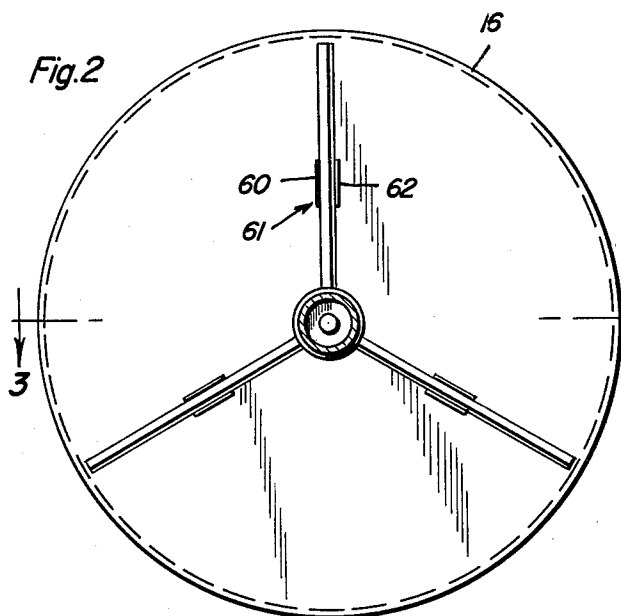
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POLE-MOUNTED SUPERPOSED COMPARTMENTS

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2 Sheets-Sheet 2



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POLE-MOUNTED SUPERPOSED COMPARTMENTS

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7 Claims. (Cl. 312-202)

This invention relates broadly to a geometrical configuration, and more specifically to a new geometrical arrangement for rotatable drawers or containers.

Accordingly, it is a primary object of the invention to provide a new construction for furniture which will replace the conventional dresser drawers and bureaus.

It is another object of this invention to provide a new construction for furniture and which is much more economical to manufacture than conventional similar types of furniture used for the same purpose, and it is contemplated that this invention will provide a new design for dressers which will retail for substantially or approximately one-half of the cost of conventional dressers.

It is another object of the invention to provide a new design for furniture wherein the various parts thereof are maintained in assembly primarily by gravity, and are therefore easily separated whereby the various parts thereof may be easily replaced when necessary.

It is another object of the invention to provide a piece of furniture having drawers wherein the drawers may be of a plurality of different shapes.

It is another object of the invention to provide a container having drawers which are rotatable whereby easy access may be obtained to every portion of the drawers.

It is yet another object of the invention to provide a new geometrical design which may be applied not only to dressers, but also to desks, coffee tables, lamps, book shelves, dinette sets, filing systems, chairs, divans, various types of shelving, and even to houses and buildings.

It is another object of the invention to provide a new design for furniture which may have universal application in the home and may be used for many purposes such as dressers, bunkbeds, tables, wall dividers, chairs, bookcases, desks, filing cabinets, lamps, kitchen containers, refrigerators, kitchen tables that may be used both by adults and children, and work tables or portable work tables.

Still another object of the invention is to provide a piece of furniture which can be quickly moved and easily disassembled.

Yet another object of the invention is to provide a piece of furniture which will readily harmonize with any furniture now in use.

Still another object of the invention is to provide a piece of furniture having a plurality of drawers which will conceal the entire contents thereof yet do not require pushing and pulling as conventional drawers.

Another object of the invention is to provide a piece of furniture that may be made in any desired size.

Still another object of the invention is to provide a structure having drawers wherein the number of drawers may be easily reduced or increased whenever desired.

It is still another object of the invention to provide a structure which can be used for supporting small electronic devices on an assembly line, for supporting food in a grocery store, storing of a spare tire in a horizontal position under the frame of an automobile, as a mechanism in the field of electronic card systems, as a storage device for electronic magnetic tape, and may be used as an office desk attachment for storing miscellaneous items as rubber bands and paper clips.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accom-

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panying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view showing one form of the invention;

FIGURE 2 is a bottom sectional view showing the lower structure of one of the rotatable drawers;

FIGURE 3 is a cross-sectional elevational view taken substantially on the plane of line 3-3 in FIGURE 2;

FIGURE 4 is an enlarged vertical cross-sectional view taken through the connecting joint between two of the vertical post sub-assemblies;

FIGURE 5 is a cross-sectional view taken substantially on the plane of line 5-5 of FIGURE 4;

FIGURE 6 is a cross-sectional view taken substantially on the plane of line 6-6 of FIGURE 4;

FIGURE 7 is an exploded view in perspective of the post assembly joint shown in FIGURE 4;

FIGURE 8 shows a modification of one of the drawers; and

FIGURE 9 shows a perspective view of a modified base drawn to a smaller scale.

Referring to the drawings, and particularly to FIGURE 1, it can be seen that I have illustrated two complete drawer assemblies 10 and 12 internested and mounted adjacent one another.

Each of the drawer assemblies 10 and 12 comprise a base assembly, a pole assembly and a plurality of spaced drawers rotatable on each pole assembly. For example, the assembly 10 comprises a base 22, the pole assembly 14 and a plurality of vertically spaced drawers 16, 18 and 20.

The structure of one of the drawer assemblies 16 is illustrated in FIGURES 2 and 3. The drawer comprises a hollow cylindrical member 24 having a vertical axis and having its lower end closed by a circular floor 27 fixed to or formed integrally with the inner surface of the cylinder 24.

Formed on the inner surface of the cylinder 24 adjacent its upper edge is an annular groove 26 and an annular recess 28 separated by an annular rib 30. Fitted within the annular recess 26 is a semi-circular cover member 32 and resting upon the top surface of the annular rib 30 and fitting within the recess 28 is a second semi-circular cover member 34. The cover members 32 and 34 are substantially identical in size and shape. Each of the cover members preferably has a finger-gripping recess 36, or 37 formed therein whereby the cover members may be rotated as shown in FIGURE 3 to close the upper end of the cylinder 24 or they may be rotated in vertical alignment with one another whereby one-half of the upper end of the cylinder 24 will be open for access to the interior thereof.

The pole assemblies 14 are each composed of a plurality of telescoping parts, there being one rotatable pole section for each drawer. Referring particularly to FIGURES 4 and 7, it can be seen that each pole is divided into a plurality of sections such as 40 and 42. The adjacent ends of each pole section are separated by a flanged washer 44 having a central opening 46 formed therein. Fitted within the lower end of each pole section is a solid plug member 48. The plug member 48 has a plurality of threaded apertures 50 formed therein which are aligned with apertures 52 in the lower end of the pole sections. Threaded into each of the apertures 50 is a radially extending arm 54 which securely fastens the plug members in the lower ends of the pole or pipe sections. Although the number may be varied, it is preferable to employ three radiating arms at the lower end of each pipe section.

Formed integrally with each plug member 48 and extending downwardly from its lower surface is a centrally

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located rod 56. The upper end of each pole section has a sleeve 58 secured therein by means of threaded screws 60 while the rod 56 fits snugly within the bushing 58, but yet is free to rotate therein.

In assembly, the plug 48 is fixed in the lower end of the section 40 by means of threaded rods 54. Sleeve 53 is then inserted within the upper end of section 42 and secured thereto by means of screws 60. Flanged washer 44 is then inserted over the upper end of section 52 and then rod 56 is pushed downwardly through apertures 46 and into the sleeve 58 until the lower end of the section 40 rests upon washer 44. It can thus be seen that the two sections 40 and 42 are firmly held in alignment, and yet are free to rotate relative to one another.

Depending downwardly from the lower surface of floor 26 are a plurality of clip assemblies 61 comprising resilient parallel plates 60 and 62 spaced apart a distance equal or slightly less than the diameter of rod 54.

The bottom of each drawer floor 27 has a circular aperture 64 slightly larger than the diameter of the pole sections and the covers 32 and 34 have semi-circular notches 67 and 68 formed therein so as to comprise the circular opening in axial alignment with the aperture 64. The drawers are inserted over the upper ends of the pole sections by inserting the pole sections first through the apertures 64 and then through the arcuate notches 67, 68. The drawers are then pushed downwardly until the rods 54 are forced between and resiliently held by the clamp member 60, 62. This securely locks each drawer to its corresponding pole section, and permits the drawer and pole section to rotate on the washers 44 as a rigid unit.

While the drawers may be mounted concentrically about the poles 14, they may also be mounted eccentrically thereon. Preferably as shown in FIGURE 1, the bottom drawer such as 16 are mounted concentrically on its pole section, while the upper drawer such as 18 and 20 are mounted eccentrically thereon when the drawer assemblies are internested as shown in FIGURE 1, the vertical elevation of the drawers in one assembly must be staggered from that in the closing assembly so as to permit the drawers to internest as shown in FIGURE 1. Preferably, the bottommost drawer is largest in size, the upper drawer being smallest in size and the intermediate drawers being of an intermediate size whereby the drawers form a tapering configuration.

The lower drawers such as 16 and 17 of two assemblies are preferably of the same diameter, are concentrically mounted and determine the spacing between the pole assemblies 14 and 14'. These drawers are thus completely and freely rotatable. The drawers 18, 19, 20 and 21 preferably are eccentrically mounted on their respective pole assemblies and are off-centered a distance whereby the edges thereof that are furthest from the pole assemblies will lie adjacent the opposite pole assembly when the drawers are rotated to their innermost position as shown in FIGURE 1.

FIGURE 3 shows an arrangement of the drawer lids for a drawer assembly which is concentrically mounted. However, if the drawers are eccentrically mounted such as the drawers 18, 19, 20 and 21, then the lid assemblies cannot be rotated and both of the sections 32 and 34 should be mounted in the recess 28 and on the circular rib 30 so as to permit the lid portions to be lifted upwardly for opening the drawers.

The base portions 22 and 22' of the drawers are preferably formed of solid metal so as to act as stabilizing weights. Although the drawer assemblies 10 and 12 are shown as not having any positive connection therebetween, if desired, the bases 22 and 22' could be made as one integral member as shown in FIGURE 9. Each of the drawers are preferably spaced a sufficient distance from one another in a vertical direction to permit easy access to the drawers.

As shown in FIGURE 1, the drawers are rotated to their innermost positions for a maximum saving of space. If

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it is desired to gain access to either one of the eccentrically mounted drawers, it is rotated to a position where it projects outwardly from the pole assemblies.

It is not necessary that the drawer assemblies be circular in shape, for example the drawers would be triangular in shape as illustrated at 70 in FIGURE 8 and still be rotatable on the pole assemblies. Also, the drawers could be of other shapes, such as square, diamond or hexagonal, etc.

The drawers are preferably made of plastic and from one mold so as to be one integral piece. The poles are preferably made of metal such as aluminum or plastic and may be made of any desired length so long as they properly space the drawers. The washer 44 is preferably made of hard nylon or fiber glass, or some other material which provides a good bearing surface.

The poles and drawers may also be made of other conventional materials such as wood and fiberboard.

By varying the number of pole sections 40 and 42, the height of the drawer assemblies and the number of drawers may be varied as desired.

While I have illustrated two drawer assemblies 10 and 12, it is pointed out that three or more such assemblies could be interested in a manner illustrated in FIGURE 1.

The modified base 80 shown in FIGURE 9 is adapted to replace the two bases 22 and 21' and has two sleeves 82 and 84 integrally formed on its upper surface for receiving and supporting poles 14 and 14'. The sleeves determine and maintain proper spacing of the poles. The base 80 may be solid or hollow and is preferably composed of a strong and dense material as steel.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalent may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A structure comprising a longitudinally extending pole, a plurality of elements on said pole, each of said elements having a flat surface extending substantially normal to the axis of said pole, at least some of said elements being eccentrically and rotatably mounted on said pole, said pole being divided into a plurality of separately rotatable sections, each of said elements being fixed to one of said sections by means of radially extending arms fixed to said section and clips fixed on said elements, said clips each comprising a pair of parallel plates overlapping said arms, each plate lying in a plane parallel to the axis of said pole.

2. The combination of claim 1 wherein said elements comprise hollow containers each having a flat bottom and a lid thereon composed of axially spaced plates rotatable about said pole.

3. A structure comprising a longitudinally extending pole, a plurality of elements on said pole, each of said elements having a flat surface extending substantially normal to the axis of said pole, at least some of said elements being eccentrically and rotatably mounted on said pole, said pole being divided into a plurality of separately rotatable sections, each of said elements being fixed to one of said sections, each of said pole sections being separated from and connected to an adjacent section by means of an annular flanged washer into which the ends of said sections telescope, said washer functioning as a thrust bearing and means for retaining said sections in axial alignment.

4. A structure comprising a longitudinally extending pole, a plurality of elements on said pole, each of said elements having a flat surface extending substantially normal to the axis of said pole, at least some of said elements being eccentrically and rotatably mounted on said pole, said elements comprising hollow containers having

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a bottom comprising said flat surface, the means for mounting the containers on the poles comprising a plurality of radial arms extending from said pole parallel to said bottom, a plurality of releasable clips fixed on said bottom gripping said arms, each clip comprising a pair of parallel plates receiving one of said arms therebetween, each plate lying in a plane parallel to the axis of said pole whereby the containers may be moved axially in one direction relative to said arms.

5. A structure comprising a longitudinally extending pole, a plurality of elements on said pole, each of said elements having a flat surface extending substantially normal to the axis of said pole, at least some of said elements being eccentrically and rotatably mounted on said pole, said pole being divided into a plurality of separately rotatable sections, each of said elements being fixed to one of said sections, each of said pole sections being separated from and connected to an adjacent section by means of an annular flanged washer into which the ends of said sections telescope, said washer functioning as a thrust bearing and means for retaining said sections in axial alignment, said elements comprising hollow containers having a bottom comprising said flat surface.

6. A structure comprising a longitudinally extending pole, a plurality of hollow containers on said pole, each of said hollow containers having a flat surface extending substantially normal to the axis of said pole, at least some of said containers being eccentrically and rotatably mounted on said pole, said pole being divided into a plurality of separately rotatable sections, each of said containers being fixed to one of said sections, each of said pole sections being separated from and connected to an adjacent section by means of flanged annular washers into which the ends of said sections telescope, said washer

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functioning as a thrust bearing and means for retaining said sections in axial alignment, the means for mounting the containers on the poles comprising a plurality of radial arms extending from said pole parallel to said bottom, a plurality of releasable clips fixed on said bottom gripping said arms, each clip comprising a pair of parallel plates receiving one of said arms therebetween, each plate lying in a plane parallel to the axis of said pole whereby the containers may be moved axially in one direction relative to said arms.

7. The combination of claim 6 wherein each section comprises a hollow cylinder having a plug in one end and a sleeve fixed in its other end, each plug connected to the ends of a plurality of said arms, a cylindrical rod fixed to the outer end of each plug extending through one of said washers and journaled in the sleeve of an adjacent section.

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